

**AMENDMENTS TO THE CLAIMS**

Please add the following new claims:

37. (new) A method for immobilizing a biomolecule to a surface comprising:

- a. linking said biomolecule to a polymer via a hydrazone bond to produce a biomolecule/polymer conjugate said biomolecule/polymer conjugate having at least one hydrazine moiety; and
- b. reacting said surface having at least one aldehyde or ketone moiety with said biomolecule/polymer conjugate immobilizing said biomolecule to said surface.

38. (new) A method for immobilizing a biomolecule to a surface comprising:

- a. linking said biomolecule to a polymer via a hydrazone bond to produce a biomolecule/polymer conjugate said biomolecule/polymer conjugate having at least one aldehyde or ketone moiety; and
- b. reacting said surface having at least one hydrazine moiety with said biomolecule/polymer conjugate immobilizing said biomolecule to said surface.

39. (new) A method for immobilizing a biomolecule to a surface comprising:

- a. linking said biomolecule to a polymer via a oxime bond to produce a biomolecule/polymer conjugate said biomolecule/polymer conjugate having at least one aminooxy moiety; and
- b. reacting said surface having at least one aldehyde or ketone moiety with said

biomolecule/polymer conjugate immobilizing said biomolecule to said surface.

40. (new) A method for immobilizing a biomolecule to a surface comprising:

- a. linking said biomolecule to a polymer via a oxime bond to produce a biomolecule/polymer conjugate said biomolecule/polymer conjugate having at least one aldehyde or ketone moiety; and
- b. reacting said surface having at least one aminooxy moiety with said biomolecule/polymer conjugate immobilizing said biomolecule to said surface.

41. (new) A method for immobilizing a biomolecule to a surface comprising:

- a. binding a polymer to said surface via hydrazone bond producing a polymer bound surface said polymer on said polymer bound surface having at least one hydrazine moiety; and
- b. reacting said biomolecule having at least one aldehyde or ketone moiety with said polymer bound surface immobilizing said biomolecule to said surface.

42. (new) A method for immobilizing a biomolecule to a surface comprising:

- a. binding a polymer to said surface via hydrazone bond producing a polymer bound surface said polymer on said polymer bound surface having at least one aldehyde or ketone moiety; and

- b. reacting said biomolecule having at least one hydrazine moiety with said polymer bound surface immobilizing said biomolecule to said surface.
43. (new) A method for immobilizing a biomolecule to a surface comprising:
- a. binding a polymer to said surface via oxime bond producing a polymer bound surface said polymer on said polymer bound surface having at least one aminooxy moiety; and
  - b. reacting said biomolecule having at least one aldehyde or ketone moiety with said polymer bound surface immobilizing said biomolecule to said surface.
44. (new) A method for immobilizing a biomolecule to a surface comprising:
- a. binding a polymer to said surface via oxime bond producing a polymer bound surface said polymer on said polymer bound surface having at least one aldehyde or ketone moiety; and
  - b. reacting said biomolecule having at least one aminooxy moiety with said polymer bound surface immobilizing said biomolecule to said surface.
45. (new) A method according to claim 37 wherein said biomolecule is an oligonucleotide, a polynucleotide, a DNA or a RNA.
46. (new) A method according to claim 37 wherein said biomolecule is a protein, a glycoprotein, a peptide or a carbohydrate.
47. (new) A method according to claim 38 wherein said biomolecule is an oligonucleotide, a polynucleotide, a DNA or a RNA.

48. (new) A method according to claim 38 wherein said biomolecule is a protein, a glycoprotein, a peptide or a carbohydrate.
49. (new) A method according to claim 39 wherein said biomolecule is an oligonucleotide, a polynucleotide, a DNA or a RNA.
50. (new) A method according to claim 39 wherein said biomolecule is a protein, a glycoprotein, a peptide or a carbohydrate.
51. (new) A method according to claim 40 wherein said biomolecule is an oligonucleotide, a polynucleotide, a DNA or a RNA.
52. (new) A method according to claim 40 wherein said biomolecule is a protein, a glycoprotein, a peptide or a carbohydrate.
53. (new) A method according to claim 41 wherein said biomolecule is an oligonucleotide, a polynucleotide, a DNA or a RNA.
54. (new) A method according to claim 41 wherein said biomolecule is a protein, a glycoprotein, a peptide or a carbohydrate.
55. (new) A method according to claim 42 wherein said biomolecule is an oligonucleotide, a polynucleotide, a DNA or a RNA.
56. (new) A method according to claim 42 wherein said biomolecule is a protein, a glycoprotein, a peptide or a carbohydrate.
57. (new) A method according to claim 43 wherein said biomolecule is an oligonucleotide, a polynucleotide, a DNA or a RNA.

58. (new) A method according to claim 43 wherein said biomolecule is a protein, a glycoprotein, a peptide or a carbohydrate.
59. (new) A method according to claim 44 wherein said biomolecule is an oligonucleotide, a polynucleotide, a DNA or a RNA.
60. (new) A method according to claim 44 wherein said biomolecule is a protein, a glycoprotein, a peptide or a carbohydrate.
61. A method according to claim 37 wherein the polymer is poly-L-lysine, poly-L-ornithine or polyethyleneimine.
62. A method according to claim 38 wherein the polymer is poly-L-lysine, poly-L-ornithine or polyethyleneimine.
63. A method according to claim 39 wherein the polymer is poly-L-lysine, poly-L-ornithine or polyethyleneimine.
64. A method according to claim 40 wherein the polymer is poly-L-lysine, poly-L-ornithine or polyethyleneimine.
65. A method according to claim 41 wherein the polymer is poly-L-lysine, poly-L-ornithine or polyethyleneimine.
66. A method according to claim 42 wherein the polymer is poly-L-lysine, poly-L-ornithine or polyethyleneimine.
67. A method according to claim 43 wherein the polymer is poly-L-lysine, poly-L-ornithine or polyethyleneimine.

68. A method according to claim 44 wherein the polymer is poly-L-lysine, poly-L-ornithine or polyethyleneimine.
69. A biomolecule/polymer conjugate wherein said biomolecule is conjugated to said polymer by a hydrazone bond, wherein said biomolecule is a polynucleotide, oligonucleotide, a DNA or a RNA and wherein said polymer is a poly-L-lysine, poly-L-ornithine or polyethyleneimine.
70. A biomolecule/polymer conjugate wherein said biomolecule is conjugated to said polymer by a hydrazone bond, wherein said biomolecule is a protein, a glycoprotein, a peptide or a carbohydrate and wherein said polymer is a poly-L-lysine, poly-L-ornithine or polyethyleneimine.
71. A biomolecule/polymer conjugate wherein said biomolecule is conjugated to said polymer by a oxime bond, wherein said biomolecule is a polynucleotide, oligonucleotide, a DNA or a RNA and wherein said polymer is a poly-L-lysine, poly-L-ornithine or polyethyleneimine.
72. A biomolecule/polymer conjugate wherein said biomolecule is conjugated to said polymer by a oxime bond, wherein said biomolecule is a protein, a glycoprotein, a peptide or a carbohydrate and wherein said polymer is a poly-L-lysine, poly-L-ornithine or polyethyleneimine.
73. (new) A method for immobilizing an oligonucleotide to a surface comprising:
  - a. linking a nucleotide primer to a polymer via hydrazone bond to produce a nucleotide primer/polymer conjugate said polymer of said

- nucleotide primer/polymer conjugate having at least one aldehyde or ketone moiety;
- b. binding said oligonucleotide to said nucleotide primer on said nucleotide primer/polymer conjugate;
  - c. amplifying said oligonucleotide by polymerase chain reaction or by reverse transcriptase reaction to produce a double stranded oligonucleotide/polymer complex;
  - d. reacting said double stranded oligonucleotide/polymer complex with said surface said surface having at least one hydrazine moiety immobilizing said biomolecule to said surface.
74. (new) A method for immobilizing an oligonucleotide to a surface comprising:
- a. linking a nucleotide primer to a polymer via hydrazone bond to produce a nucleotide primer/polymer conjugate said polymer of said nucleotide primer/polymer conjugate having at least one hydrazine moiety;
  - b. binding said oligonucleotide to said nucleotide primer on said nucleotide primer/polymer conjugate;
  - c. amplifying said oligonucleotide by polymerase chain reaction or by reverse transcriptase reaction to produce a double stranded oligonucleotide/polymer complex;
  - d. reacting said double stranded oligonucleotide/polymer complex with said surface said surface having at least one

aldehyde or ketone moiety immobilizing said biomolecule to said surface.

75. (new) A method for immobilizing an oligonucleotide to a surface comprising:

- a. linking a nucleotide primer to a polymer via oxime bond to produce a nucleotide primer/polymer conjugate said polymer of said nucleotide primer/polymer conjugate having at least one aldehyde or ketone moiety;
- b. binding said oligonucleotide to said nucleotide primer on said nucleotide primer/polymer conjugate;
- c. amplifying said oligonucleotide by polymerase chain reaction or by reverse transcriptase reaction to produce a double stranded oligonucleotide/polymer complex; and
- d. reacting said double stranded oligonucleotide/polymer complex with said surface said surface having at least one aminooxy moiety immobilizing said biomolecule to said surface.

76. (new) A method for immobilizing an oligonucleotide to a surface comprising:

- a. linking a nucleotide primer to a polymer via oxime bond to produce a nucleotide primer/polymer conjugate said polymer of said nucleotide primer/polymer conjugate having at least one aminooxy moiety;
- b. binding said oligonucleotide to said nucleotide primer on said nucleotide primer/polymer conjugate;



- c. amplifying said oligonucleotide by polymerase chain reaction or by reverse transcriptase reaction to produce a double stranded oligonucleotide/polymer complex; and
- d. reacting said double stranded oligonucleotide/polymer complex with said surface said surface having at least one aldehyde or ketone moiety immobilizing said biomolecule to said surface.

Please cancel claims 1-36 without prejudice.